REMARKS

Applicant appreciates the time taken by the Examiner to review Applicant's present application. This application has been carefully reviewed in light of the Official Action mailed July 18, 2007. This Reply encompasses a bona fide attempt to fully respond to the Examiner's rejections, including amendments as well as reasons why Applicant believes that embodiments of the invention as claimed are statutory and patentable over the applied prior art. Applicant respectfully requests reconsideration and favorable action in this case.

Claim Status

Claims 1-21 were pending and rejected. Claims 1-2, 10-11, and 19 are amended herein. Support for the amendment can be found in the specification as originally filed, particularly paragraphs 42, 46, and 49-50. No new matter is introduced. No claim is newly added or cancelled herein. By this Amendment, claims 1-21 are pending.

Rejections under 35 U.S.C. § 112, Second Paragraph

Claim 2 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the examiner deemed that it is "not clear why applicant recites '... comprises an attribute...'" Claim 2 is amended herein to remove "an attribute comprising." Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1-8 and 10-21 were rejected under U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,133,848 ("Phillips"). The rejection is respectfully traversed. Claims 2-8, 11-18, and 20-21 depend from independent claims 1, 10, and 19. Independent claims 10 and 19 recite limitations similar to those recited in independent claim 1. Thus, traversal to the rejection will be collectively discussed below with respect to claim 1.

The standard for "anticipation" is one of fairly strict identity. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), MPEP § 2131.

Further, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. W.L. Gore & Assocs. v. Garlock, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

As amended, claim 1 is directed to a method of determining a price for a commodity on a spot market, comprising:

generating a forecast market state condition for a next period using historical data which includes transactional data and non-transactional data;

clustering data from a database into clusters based on market conditions;

identifying which cluster most closely matches the forecast market state condition; and

generating a price-demand curve using the data from the identified cluster.

Applicant respectfully submits that Phillips does not describe, either expressly or inherently, each and every element as set forth in claim 1, that Phillips does not disclose each and every element as arranged in claim 1, and that Phillips does not show an identical invention in as complete detail as is contained in claim 1.

First, in rejecting claim 1, the Examiner states that Phillips teaches a method of determining a price for a commodity, citing figures 1 and 2, and claims 1 and 15 of Phillips. Specifically, the Examiner states, in part, that Phillips teaches "a method of generating a forecast market state condition for a next period using historical data" from prior transactions to form profit maximizing price recommendations for future sales. It is believed that, while the method of Phillips might work in an inventory based market, it will not work in a spot market. Prices for commodities in a spot market tend to be very volatile and difficult to predict using conventional methods as nearly limitless factors can influence prices at any given time in a unpredictable manner.

Another reason that the method of Phillips will not work in a spot market is because it is premised on the assumption that price has an instantaneous impact on sales volume and that this impact is consistent over time. *See* Phillips, col. 4, lines 55-57. Specifically, Phillips describes a price sensitivity model (PSM) which uses the information in a transaction database to predict price sensitivity of buyers for the product(s) in issue. *See* Phillips, col. 4, lines 27-29. According to Phillips, the PSM assumes that sales volume is strictly a function of the price level. *See* Phillips, col. 4, lines 58-59. As a result, the strategic objectives and pre-specified events seemingly involve only sales volume and/or price for the product. *See e.g.,* Phillips, claims 4-7 and 13-14.

In contrast, embodiments as claimed in claim 1 are directed to a method of determining a price for a commodity on a spot market. The method as claimed in claim 1 includes generating a forecast market state condition for a next period using historical data. As particularly provided in the Specification, the term "historical data" includes transactional and other non-transactional data, such as an environmental or other external condition that may affect the price or demand of a commodity in a spot market. *See* Specification, paragraph 7. Examples of transactional data include prices and quantities of the commodity and date sold. *See* Specification, paragraph 42. Examples of other non-transactional data include product-based data, customer-based data, competitor-based data, seasonal variations, and special events. *See* Specification, paragraph 46; Table 1. The number and types of variables monitored and corresponding data collected may be nearly limitless and may not be limited only to purely transactional data. *See* Specification, paragraph 42. After reading the Specification, skilled artisans will know what data to collect as they will be aware of attributes that affect the prices of their goods or services on the spot market. *See* Specification, paragraph 44.

As a non-limiting example, paragraphs 43 and 50 describe how to collect other non-transactional data that may affect the price or demand of a commodity in a spot market. Suppose the price of a barrel of crude oil, a highly volatile commodity, may depend on the tensions in the Middle East (e.g., likelihood of war or civil unrest). An oil company may want to assign a value of 0-100 corresponding to the tensions within the Middle East for that day and store it within a historical database. Thus, in embodiments as claimed in claim 1, a forecast market state condition for a next period is generated using more than just sales volumes and prices. Unlike Phillips, in embodiments as claimed in claim 1, no assumption is made that sales

volume is strictly a function of the price level. This difference foundationally and fundamentally distinguishes Phillips under 35 U.S.C. § 102(e).

Secondly, the Examiner states that Phillips teaches "clustering data from a database into clusters and identifying which cluster corresponds to the forecast market state condition," citing col. 3, line 65, through col. 4, line 3. Applicant respectfully disagrees. Aggregating and grouping transactions by market segments into mutually exclusive and collectively exhaustive sets (i.e., channel segments) according to Phillips is quite different from "clustering data from a database into clusters and identifying which cluster most closely matches the forecast market state condition," as recited in claim 1. As submitted above, the term "historical data" as claimed in claim 1 contains more than just historical sales volume and prices for certain products. In embodiments as claimed in claim 1, clustering is used to find comparables that take as many of the attributes in the market state condition as possible and try to match them to days or other records in the historical database having similar market conditions. *See* Specification, paragraphs 38 and 49-50. This helps to reduce the level of noise in the data used for generating the price-demand curve. *See* Specification, paragraph 50. The ability to define a more accurate price-demand curve addresses a common problem in spot market sales of a commodity. *See* Specification, paragraph 6.

As a non-limiting example, in generating a market state condition for crude oil produced in the Middle East, clustering data can be used to find days that closely matches the current market state condition. *See* Specification, paragraph 13. In some instances, records from 13 years ago may be more relevant than newer data. *Id.* Such relevancy would not be found if records are simply grouped/aggregated by market segments into mutually exclusive and collectively exhaustive sets (i.e., channel segments), as disclosed in Phillips.

Furthermore, the Examiner states that Phillips teaches aggregating transactions into channel segments, along market segment dimensions. Applicant would like to point out that, in Phillips, the channel segments combine to form a mutually exclusive, exhaustive set on the universe of all sales transactions (i.e., the "market"). *See* Phillips, column 4, lines 7-9. According to Phillips, channel segments are defined to be aggregations of transactions along market segment dimensions (e.g., geographic area, size of sales, method of delivery, buyers' characteristics, etc.). *See* Phillips, column 4, lines 1-4. Each and every sale can be classified into only one channel segment. *See* Phillips, col. 4, lines 9-10. The aforementioned PSM then models price sensitivity for a particular product within each channel segment. *See* Phillips, col.

4, lines 36-37. In contrast, instead of having thousands or a very large number of records, the market condition based clustering module according to embodiments as claimed may produce only a select number of records (e.g., 10-20) that are most relevant (based on market conditions or clustering index). *See* Specification, paragraph 54.

Finally, the Examiner states that Phillips teaches "generating a price-demand curve using the data from the identified cluster," citing Figure 2, #140. Applicant would like to point out that Figure 2, #140 of Phillips shows the aforementioned PSM. According to Phillips, the PSM assumes that sales volume is strictly a function of the price level. *Supra.* In other words, the PSM mathematically estimates how changes in price for a product affect buyers' demand for that product. *See* Phillips, col. 4, lines 29-31. The PSM of Phillips does not consider other non-transactional data and Phillips does not teach or suggest generating a price-demand curve using data from a specific cluster that most closely matches the forecast market state condition, as claimed in claim 1.

For the foregoing reasons, Applicant respectfully submits that claim 1 recites novel subject matter not reached by Phillips under 35 U.S.C. § 102(e) and therefore should be allowed. For similar reasons as set forth above, claims 2-8 and 10-21 are submitted to be patentable over Phillips. Accordingly, withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claim 9 was rejected under 35 U.S.C. § 103(c) as being obvious over Phillips in view of "Official Notice". In particular, the Examiner states that Phillips fails to explicitly disclose wherein the commodity is a service. The Examiner takes Official Notice that "it is old and well known in the art or technology that a commodity may be referred to as a service."

Applicant notes that the Examiner did not cite any reference that supports the Official Notice. Applicant further respectfully requests that, if the Examiner is relying on facts within the Examiner's personal knowledge, an affidavit be provided in support of these facts. MPEP 2144.03 states that when a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit

is subject to contradiction or explanation by the affidavits of the applicant and other persons (See 37 CFR 1.104(d)(2)).

The Examiner further states that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Phillips et al. to include a commodity as a service in order to forecast cost increases over periods of time, such as sub-contracted labor." In view of Phillips, Applicant respectfully submits that there were no apparent reasons for one of ordinary skill in the art to modify Phillips to include a commodity as a service. First, as submitted above, in estimating price sensitivity for a particular product, the PSM of Phillips assumes that the sales volume of the product is strictly a function of the price level. *Supra.* If one were to substitute "product" with "service" without fundamentally altering the mathematical model of the PSM, then the assumption would be "the sales volume of the service is strictly a function of the price level," apparently excluding other factors such as the skill level of a service provider. Second, Phillips explicitly describes inventory 410 (*See* Phillips, Figure 6) which would be useless in the context of pricing services. Third, consistency over time appears to be an important premise of Phillips. *See* Phillips, col. 4, lines 55-57. Phillips further describes a Normalized Sales Forecaster (NSF) that predicts future sales volume, assuming that a constant reference price is applied throughout the forecast horizon. *See* Phillips, column 6, lines 3-9. Phillips does not appear to be concerned with volatile products or services. In contrast, commodities sold in a spot market (also known as a cash market as commodities are sold for cash and delivered immediately) tend to be volatile and difficult to predict. *See* Specification, paragraph 38. Thus, regardless of whether one of ordinary skill in the art at the time of the invention would have known that a service may be referred to as a commodity, Phillips does not teach or suggest pricing services and there were no apparent reasons that would have motivated one of ordinary skill in the art to modify Phillips to price services. Accordingly, a *prima facie* case of obviousness has not been established and withdrawal of this rejection is respectfully requested.

Conclusion

Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include any acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof

in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of claims 1-21. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3183 of Sprinkle IP Law Group.

Respectfully submitted,

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